ABSTRACT

A honeycomb structure includes honeycomb segments separated by porous partitions and having circulation holes through the honeycomb segments in an axial direction; a spacer positioned between neighboring honeycomb segments of the honeycomb segments; and a bonding layer located between honeycomb segments where the spacers are positioned and bonding the neighboring honeycomb segments. The spacer has Young's modulus in a range of 0.1 to 1.5 GPa. A ratio of area of the spacer to area of the bonding layer between the neighboring honeycomb segments is in a range of 0.2 to 30%.